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AERIAL SURVEY OF THE HAT CREEK RANGER DISTRICT, LASSEN NATIONAL FOREST

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ABSTRACT

An aerial reconnaissance of the Hat Creek Ranger District, Lassen National Forest, found the District to be relatively free of tree mortality. Only three pockets of mortality were observed, and contractors presently operating in stands containing two of these can readily conduct salvage operations. Activity of the Jeffrey pine beetle is expected to continue to decline from levels reached in 1979 and 1980.

INTRODUCTION

The Hat Creek Ranger District scheduled an aerial reconnaissance on July 22, 1981 to evaluate the frequency and location of tree mortality on the District. Forest Pest Management was invited to participate and two members of the FPM Staff, John Dale and John Kliejunas, joined Hat Creek foresters Bill Stanley and George McDermitt as observers during the flight.

OBSERVATIONS

Those areas of the District north of state route 299 currently contain very few fading trees or tree tops, and minimal activity of bark beetles is indicated. Soldier Mountain and Saddle Mountain are distinctive in the absence of tree mortality so common over the past 5 years. Areas of the Shasta-Trinity National Forests recently transferred to the administration of the Lassen National Forest are also free of any notable tree mortality. Opportunities for salvage logging in this northern sector are currently scarce.

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South of route 299 the situation is much improved over past years, but a few localized pockets of tree mortality remain. A small amount of scattered mortality occurs in T 35 N, R 6 and 7 E. A few faded trees are located near Hat Creek Rim Lookout, but bark beetle activity on the Hat Creek Rim appears limited. There is a minor amount of mortality in the western part of the District, but it largely occurs in constrained areas not available for salvage.

More significant tree mortality can be found in the vicinity of Blacks Mountain, but the level has declined sharply from that noted by aerial reconnaissance on July 31, 1979. A localized area of mortality continues on the south side of Harvey Mountain, Eagle Lake District. A contractor presently operating in this area should be able to quickly salvage these trees.

The only areas of heavy mortality continue to occur along the northern boundary of Lassen Volcanic National Park. Here, the Jeffrey pine beetle continues to kill Jeffrey pine in the National Park and within the boundaries of the Volcanic Sale and the Raker Sale on the Lassen National Forest. A contractor presently operating in the Volcanic Sale can salvage the dead trees and could conduct a sanitation/thinning entry. No logging activity is presently taking place on the Raker Sale.

DISCUSSION

Aerial observations prove unfounded the fears of increasing mortality raised by the random roadside observations of District personnel. Only one small area and two larger areas of mortality were seen. Prospects for immediate salvage exist at Harvey Mountain and within the Volcanic Sale. The Raker Sale is inactive and does not provide for immediate salvage of the dead Jeffrey pine, some of which are large and valuable trees.

Although the scale of mortality is not at the level of 1979, this is the third or fourth year for exceptional mortality in the Park and adjacent National Forest lands. Should salvage not occur soon in the Raker Sale, then the value still found in the early mortality will be lost on the stump. The extent and severity of mortality over the past 3 to 4 years also indicates that mortality will continue in the Park and within the sale areas until the Jeffrey pine beetle and other causal agents have largely eliminated pines with the characteristics of those previously killed. Subnormal precipitation in 1980-81 also will enhance the persistance of current population levels. However, the infestation is not "approaching" epidemic conditions in the sale areas or elsewhere, because the extent and quantity of fading trees is less than in 1979. Nor have the losses been "catastrophic" on the National Forest (see contract clause C2.134), although some might use that term in reference to localized areas within the Park. Unless weather conditions further stress the Jeffrey pines, mortality in 1982 should decline: the most susceptible hosts have been eliminated.

Assuming that timber salvage operations continue or that they can be easily implemented at Harvey Mountain and in the Volcanic Sale, then only the present and potential dead tree situation in the inactive Raker Sale area

need be dealt with. In this area there are two clear alternatives to decide between. Those two alternatives are:

1. Do Nothing. No entry will be made into the sale area within the near future and the loss of wood fiber values will accelerate through deterioration brought about by wood boring insects and wood rots. Also, doing nothing, including not doing a prescribed stand treatment, will assure the continuation of elevated tree mortality at least until such time that naturally occurring factors, like bark beetles, bring about a more equitable adjustment between site productivity and stocking level.

2. Salvage and Treat Stands. Trees of considerable value would be salvaged before deterioration makes removal economically impractical. Trees attacked and killed by bark beetles in 1981, but which would still be green in the spring of 1982, would be included. To prevent or reduce continued tree mortality, the affected stands should be treated using prescriptions in which pest considerations play an integral part. Principal considerations would be stocking level adjustments, and dwarf mistletoe and root disease controls. Incorporating these measures would be of great benefit for reducing and preventing tree mortality caused by bark beetles.